

Appl. No. 10/748,971
Response dated: September 5, 2006
Reply to Final Office action of June 5, 2006

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IN THE CLAIMS

1. (Currently amended) A urethane-modified polyester resin composition produced by an addition reaction of a polyester resin having a hydroxyl value of about 10 to 50 mgKOH/g and a weight average molecular weight of about 5,000 to 20,000 and isocyanate, wherein a paint film comprising the urethane-modified polyester resin has a pencil hardness of H or harder according to NCCA-II-12, and a processability value of 2T or lower according to NCCA-II-19.

2. (Currently amended) The composition of claim 1, wherein the isocyanate is reacted with the polyester resin in a proportion of about 20 to 80% with respect to ~~an~~ one equivalent weight of the polyester resin.

3. (Original) The composition of claim 1, wherein a glycol component of the polyester resin is at least one selected from the group consisting of ethylene glycol, propylene glycol, 1,4-butylene glycol, 1,6- hexanediol, neopentyl glycol, methyl propanediol, cyclohexane dimethanol, hydrogenated bisphenol A, ethylene oxide added bisphenol A, propylene oxide added bisphenol A, ethylene oxide added bisphenol F, propylene oxide added bisphenol F, ethylene oxide added bisphenol S and propylene oxide added bisphenol S.

4. (Currently amended) The composition of claim 3, wherein the glycol component of the polyester resin comprises about 20 to 100% of a first glycol and about 0 to 80% of a second glycol based on ~~at the total equivalent weight equivalents of the glycol in the polyester resin,~~ and wherein the first glycol is at least one selected from the group consisting of ethylene glycol, neopentyl glycol and methyl propanediol, and the second glycol is at least one selected from the group consisting of propylene glycol, 1,4-butylene glycol, 1,6- hexanediol, cyclohexane dimethanol and hydrogenated bisphenol A.

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5. (Original) The composition of claim 1, wherein an acid component of the polyester resin is at least one selected from the group consisting of phthalic anhydrides, tetrahydrophthalic anhydrides, isophthalic acid, terephthalic acid, adipic acid, azelaic acid, sebacic acid, cyclohexane diacid and trimellitic anhydrides.

6. (Currently amended) The composition of claim 5, wherein the acid component of the polyester resin comprises about 50 to 100% of an aromatic acid and about 0 to 50% of an aliphatic acid based on ~~a~~the total equivalent weight equivalents of the acid component in the polyester resin, and wherein the aromatic acid is at least one selected from the group consisting of phthalic anhydrides, tetrahydrophthalic anhydrides, isophthalic acid and terephthalic acid, and the aliphatic acid is at least one selected from the group consisting of adipic acid, azelaic acid, sebacic acid and cyclohexane diacid.

7. (Original) The composition of claim 1, wherein the isocyanate is at least one selected from the group consisting of 2, 4-toluene diisocyanate, 2,6-toluene diisocyanate, 4,4'-diphenyl methane diisocyanate, 2,4'-diphenyl methane diisocyanate, tetramethylxylene diisocyanate, hexamethylene diisocyanate and isophorone diisocyanate.

8. (New) A pre-coated metal (PCM) steel sheet comprising:

a steel sheet, and

a coating comprising a urethane-modified polyester resin composition comprising a polyester resin having a hydroxyl value of about 10 to 50 mgKOH/g and a weight average molecular weight of about 5,000 to 20,000, and isocyanate,

wherein the coating is coated on the steel sheet.

9. (New) A method of preparing a pre-coated metal (PCM) steel sheet comprising coating

a steel sheet, with

a urethane-modified polyester resin composition comprising a polyester resin having a hydroxyl value of about 10 to 50 mgKOH/g and a weight average molecular weight of about 5,000 to 20,000 and isocyanate.